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IMAGES IN CARDIOLOGY

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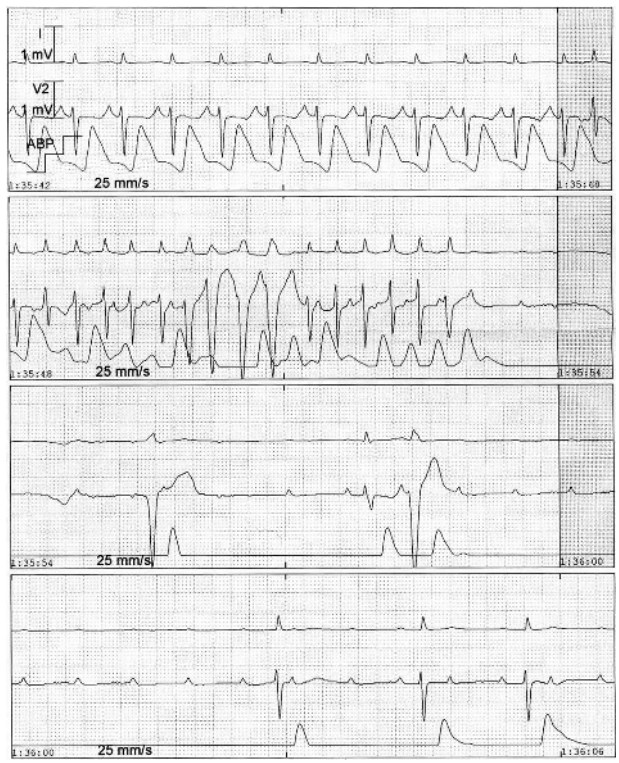
An unexpected complication during right jugular vein cannulation in a young adult

The figure presents a complete atrioventricular (AV) block which developed in a 35 year old woman hospitalised in our intensive care unit because of septic shock. She had been first hospitalised in the gastroenterology department because of an upper gastrointestinal tract haemorrhage caused by oesophageal varices in the context of hepatic cirrhosis of unknown cause. The AV block developed when we attempted to insert a right jugular vein catheter several days later. During the insertion of the guidewire the patient developed a brief run of atrial tachycardia followed by a period of complete atrioventricular block. Her arterial pressure fell dramatically. The guidewire was partially withdrawn and her cardiac rhythm and pressure were restored to normal.

Our patient did not present any cardiac abnormality. The admission ECG demonstrated a sinus tachycardia (136 beats/min) and a P–R interval of 0.12 s while cardiac enzyme measurements performed the days that followed her admission were normal. After the event, factors that could explain the block such as acidosis, electrolyte disturbances, endocarditis, large ascitic fluid quantity, and medications (for example, β blockers) were ruled out.

Arrhythmias during central venous cannulation are more prone to occur with the insertion of a pulmonary arterial catheter, especially if a pre-existing left bundle branch block (LBBB) is present. In literature, the induction of a complete heart block during the insertion of a central venous catheter has been described in two older patients with a pre-existing LBBB. The most probable explanation in our patient is a transient injury to the distal AV node caused by the over-insertion of the guide wire. Care must be taken when inserting guidewires under continuous monitoring in a distance less than 16–18 cm, since life threatening arrhythmias can occur even in young patients without cardiac abnormalities.



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